



Efficacy of Parental Pedagogy Program to Improve Mothers' Knowledge and Attitudes about Bronchial Asthma

Saranya.S¹, Geetha. C²

^{1,2}Child Health Nursing Department, Kasturba Gandhi Nursing College, Sri Balaji Vidyapeeth, Puducherry.

Email: saranyasivapragash@gmail.com¹, drgeethachockalingam@gmail.com²

ORCID ID: 0000-0002-1409-2917¹, 0000-0002-0565-5386²

*Corresponding author's E-mail: saranyasivapragash@gmail.com

Article History	Abstract
<p>Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 11 Sept 2023</p>	<p>Background: One of the most prevalent chronic respiratory illnesses in children, asthma is becoming a global health concern. It is the main reason for absences from school and the third most common reason for hospitalization in children under the age of 15. Parents, who serve as the patient's main caregiver, are crucial to the disease's management. As a result, the goal of this study is to evaluate the knowledge and attitudes of parents of asthmatic children in order to change them through parental education. Methods: The One group Pretest - Posttest research design is an adaptation of a quantitative research approach. 50 mothers of children with asthma who were being treated in the pediatric medical ward at the Institute of Child Health in Egmore, Chennai, participated in the study., who were chosen using the purposeful sampling method. Pre-testing was done using a structured interview questionnaire to gauge knowledge, and a four-point Likert scale to evaluate attitude, before the mother was tested and educated regarding bronchial asthma through the PowerPoint slides and information pamphlets were distributed. About 5 days later, the post test was performed. Results: The results show that majority of mothers had inadequate knowledge and negative attitude during pre-test and adequate knowledge and positive attitude was gained after Parental pedagogy Program. The enhancement could be statistically tested using a paired t test, which revealed statistical significance at a p-value of 0.001 for the improvement. Conclusion: It demonstrates that the Parental Pedagogy Program was successful in raising the level of knowledge and attitude among mothers of asthmatic children.</p>
<p>CC License CC-BY-NC-SA 4.0</p>	<p>Keywords: Parental Pedagogy Program, Bronchial asthma, Children, Mothers, Knowledge, Attitude</p>

1. Introduction

Childhood is God's most treasured gift. A child is carefree, content, and unaffected by the concerns of daily life, but not everyone is as lucky. Playing in the grass is a distant dream who were chosen using the purposeful sampling method. Pre-testing was done using a structured interview questionnaire to gauge knowledge, and a four-point Likert scale to evaluate attitude, before the mother was tested. bronchial asthma, a life-threatening respiratory condition.¹

An ongoing inflammatory condition affecting the airways is asthma. Airway inflammation is the primary cause of recurrent wheezing, dyspnea, tightness in the chest, and coughing episodes, particularly at night or in the early morning. There are currently 300 million people worldwide who suffer from asthma, and by 2025, there may be another 100 million cases.^{2,3}

According to a 2016 World Health Organization report, asthma is the most common chronic childhood condition, the leading cause of school absences, and the third leading cause of hospitalization among children under the age of 15.4. Parents are vulnerable as a result of a stressful life that affects their daily living activities and job due to the persistent symptoms of asthma and long-term interactions with asthmatic children. Indeed, the severity of asthma in children aged 7 to 17 years had a negative impact on caregiver and patient quality of life, as well as socioeconomic variables.⁵

The Primary school years (6 to 12 years) are crucial in the development of asthmatic children and their households. Children begin school and utilize more time without their home at this age, exposing these individuals to causes and worries. Furthermore, asthma is controlled by both family members and the patient at school age, rather than just family members. As a result, family and patient involvement in asthma control is becoming increasingly important. To manage asthma at this time, parents must be familiar with the various asthma medications on the market, as well as how to observe manifestations and respond quickly to alterations in condition. As a result, their efforts need to raise parent's knowledge regarding asthma control in the household, as well as to educate them about asthma. children's self-control accountability.⁶ The ideal model for family asthma education cannot be agreed upon.⁷

Asthma management recommendations One of the most effective ways to reduce asthma exacerbations is to encourage asthma education. A new set of guidelines from the National Asthma Education and Prevention Program (NAEPP) defines the importance of symptom monitoring, patient education, and avoiding asthma triggers. Parents are thought to be the greatest assessors of asthma severity. Through careful, regular monitoring, they can recognize symptoms as well as their child's unique asthma pattern. Additionally, they are aware of the triggers, such as food and tobacco smoke. For the treatment plan to be followed, parental education is essential. The role of medications in managing and controlling asthma must be emphasized because asthmatic children and their parents need to comprehend and cooperate with cutting-edge asthma care and control methods.⁸

The researcher was interested in analyzing the efficacy of the Parental Pedagogy Program on mothers of asthmatic children perceive and understand bronchial asthma in this study. The primary purpose of PPP was to educate parents on many elements of childhood asthma, such as diagnosis, prognosis, management, and treatment attitudes among asthma sufferers.

2. Materials and Methods

A Quantitative research approach is adapted with the One group Pretest & Posttest research design. Permission to conduct the study was obtained from the director of Institute of Child health, Egmore, Chennai the study was conducted among 50 mothers, of asthmatic children who got admitted in Pediatric medical, selected by Purposive sampling technique. The 50 selected mothers were informed by the investigator about the nature and purpose of the study. After obtaining the written consent in the pre test assessment the existing level of knowledge was assessed regarding Bronchial asthma among mothers of asthmatic children using a structured interview questionnaire and attitude was assessed by using four point Likert scale questions. And after the pre-test, Parental Pedagogy Program was implemented which has explanation and discussion by researcher using power point slides and information pamphlets were distributed. The researcher educated the mothers on meaning of bronchial asthma, causes, risk factors, identification of triggers, signs and symptoms, medical follow up, home care management simple breathing exercise, use of inhalers and complications. The Pamphlet had the same information's with picturized illustrations. The post test was done with same Structured interview Questionnaire to assess the knowledge and four-point Likert scale to assess the attitude after about 5 days the researcher used to test-retest method (Karl Pearson Reliability Formula) to assess the reliability of the tool. The overall reliability score obtained was $r = 0.87$. And based on their answers, scoring and analysis were done using SPSS software version 20.

3. Results and Discussion

In accordance with the study's goals, the findings were discussed.

Study of demographic information

Majority i.e., 17 (34%) mothers of the children belong to the age group above 28 years, 40 (80%) mothers were educated up to secondary School level. 44 (88%) mothers were unemployed, 32 (64%) mothers were Hindus, 31 (62%) of the mothers belonged to nuclear family, 25 (50%) mother's monthly income of the family was between 5000-10000, 29 (58%) families out of selected 50 have more than two children in the family. 17 (34%) families have pets in the house, 23 (46%) mothers practice cooking with wood inside the house. 44 (88%) mothers got information regarding the topic from health care providers. 29 (58%) of the children's family had history of asthma, 23 (46%) of the children's family members had got practice of tobacco smoking.

And regarding child 29 (58%) of the children belong to the age group 6-12 years of age, 28 (56%) of the children use inhalers, 28 (56%) child had symptoms of asthma for more than 6 months, 32 (64%) of the children visit emergency room twice a month.

The study primary goal was to determine how much information and attitudes mothers of asthmatic children regarding bronchial asthma.

Table :1- In the pretest, mothers of asthmatic children were surveyed about their knowledge and attitudes regarding bronchial asthma.

Pretest Level of knowledge		n	%	Pretest Level of attitude		n	%
Adequate	(≥75%)	2	4	Positive	>50%	14	28
Moderately Adequate	(50-75%)	41	82				
Inadequate	(<50%)	7	14	Negative	Up to 50%	36	72

Table: 1 shows in pre-test 7(14%) had insufficient knowledge, while 41 (82%) had only basic knowledge, 2 (4%) had adequate knowledge and attitude level of 14 (28%) had Positive attitude and 36 (72%) had negative attitude regarding Bronchial asthma

The above result is congruent with the prospective observational study conducted by Vaishnav P and et al. (2020) to assess the understanding, perspective, and behaviours of parents of asthmatic children from April 2016 to March 2018. The study involved 120 children, using the pre-validated KAP questionnaire, a thorough interview of each child and parent was conducted. The result concluded that 39.62% of parents thought it was hereditary, 32% thought it was an allergy, and 26.4% of parents had no idea what caused it. 1.9% of people believed they were contagious. 32% of parents were unaware that their child had asthma, compared to 68% of parents who knew. the majority (52.1%), followed by dust mites and pollution in (42%) and cold, wet weather. Finally, 82% of the mothers had inadequate knowledge regarding bronchial asthma⁹.

The second goal was to assess the impact of the Parental Pedagogy Program on mothers of asthmatic children's knowledge and attitudes toward bronchial asthma.

Table:2- The efficacy of the Parental Pedagogy Program on Mothers' Experience of Bronchial Asthma

Knowledge	No. of Mothers	Mean	Std. Deviation	Std. Error Mean	Paired Differences	Paired t-test	p-value
Pre-Test	50	13.94	2.36	0.334	13.1	29.519	<0.001
Post test	50	27.04	1.737	0.246			

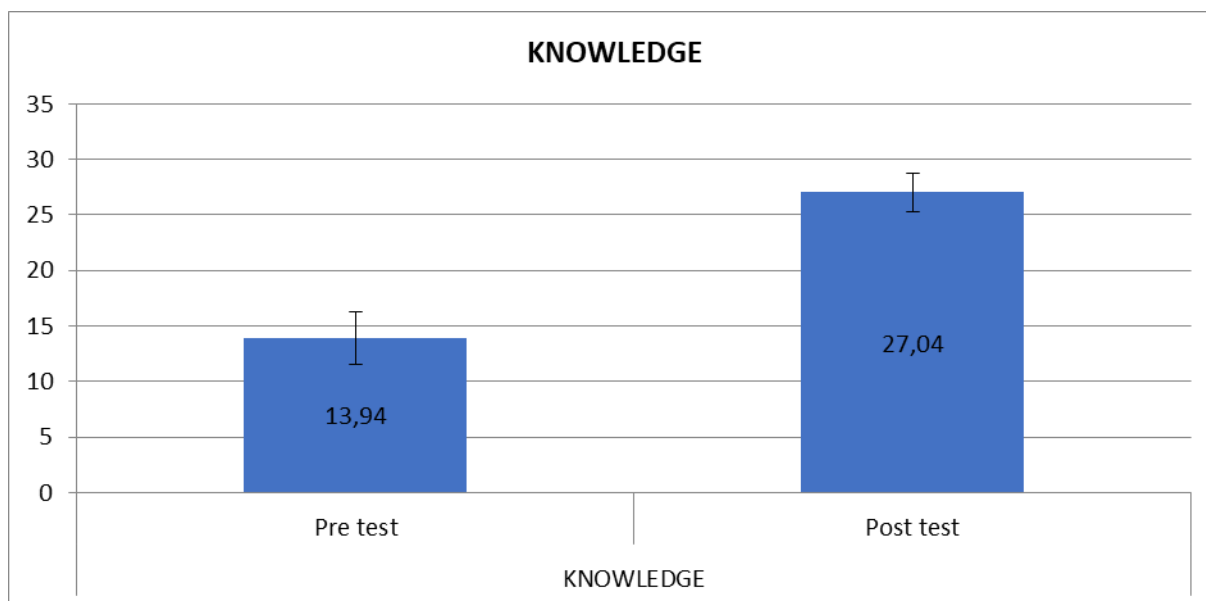


Figure:1- Effectiveness of Parental Pedagogy Program on familiarity with bronchial asthma complications prevention and management

According to Table 2 and Figure 1, the pre-test knowledge score was 13.94 with a standard deviation of 2.36, but after the parental education program, the post-test knowledge mean score increased to 27.04 with a standard deviation of 1.737. The improvement was statistically tested using a paired t test, which was found to be statistically significant at the $p < 0.001$ level, indicating that the Parental Pedagogy Program was effective in improving knowledge about the prevention and management of bronchial asthma complications among mothers of asthmatic children. As a result, hypothesis (H1) was accepted.

Table :3- Effectiveness of Parental Pedagogy Program on attitude regarding Prevention and management of bronchial asthma complications in mothers of asthmatic children

Attitude	No.of mothers	Mean	Std. Deviation	Std. Error Mean	Paired Differences	Paired t-test	p-value
Pre-test	50	23.6	3.162	0.447	32.62	60.266	<0.001
Post test	50	56.22	1.694	0.24			

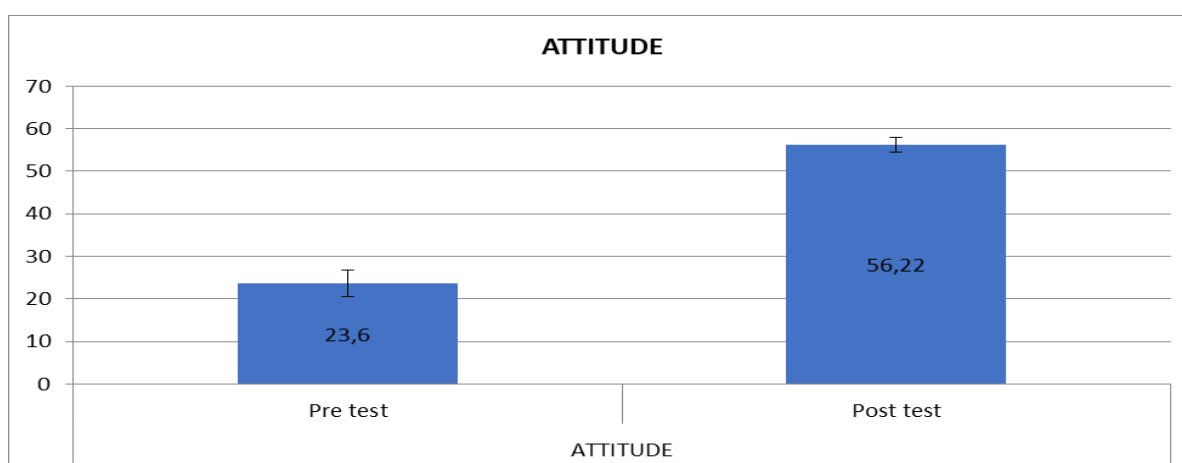


Figure :2- Effectiveness of Parental Pedagogy Program for mothers of asthmatic children to change their attitudes about bronchial asthma

Table 3 and Figure 2 illustrates the difference between the pre-test attitude score of 23.6 with a standard deviation of 3.162 and the post-test attitude score of 23.7 with a providing **Parental Pedagogy Program** Following the test, the average attitude score increased to 56.22 with a 1.694 standard deviation. The statistical paired t test was used to evaluate the improvement, which revealed that it was significant statistically at the p0.001 level. the Parental Pedagogy Program was useful for enhancing attitude regarding Mothers of asthmatic children are more likely to have bronchial asthma. As a result, hypothesis (H1) was approved.

The above result is congruent with the study conducted by Vardhini C. (2017) to evaluate the impact of STP on the knowledge and behavior of Mangadu, Chennai-based mothers of children under the age of five regarding bronchial asthma prevention. An analytical a single-group strategy Adopting a pre-test-post-test design, the samples were chosen using the deliberate sampling technique. The pre-test results for information demonstrated that only 10% of the respondents had moderately adequate knowledge, whereas the post-test findings revealed that 47% of participants had sufficient understanding, and 53% had slightly adequate knowledge. Only 3% of the pretest participants had excellent practice, whereas 43% of posttest participants of bronchial asthma complications in mothers of asthmatic children.

The third goal was to link the degree of knowledge and attitude on of bronchial asthma in a specific demographic variable

The findings showed that there was a significant correlation between understanding of the mother and socio-demographic variables namely use of inhaler among children ($\chi^2=7.95, p \text{ value} =0.02^*$), mothers of children with symptoms of asthma ($\chi^2=6.76, p \text{ value}=0.02^*$), of the children visit emergency room ($\chi^2=2.83 p \text{ value is } 0.05^*$), source of information ($\chi^2=7.23 p \text{ value is } 0.02^*$). Hence At the 0.05 level of significance, hypothesis H2 was accepted.

But There is no statistically significant relationship between the level of attitude regarding of bronchial asthma. Hence hypothesis (H2) was rejected.

4. Conclusion

The main aim of the current research was to determine the Efficiency of Parental Pedagogy Program on mothers of children with asthma have different perspectives on bronchial asthma. A total of 50 mothers of asthmatic children who met the criteria for purposeful sampling was used to choose the study's inclusion criteria. Outcomes reveals that majority of mothers had only a basic understanding and negative attitude during pre-test and adequate knowledge and positive attitude during post-test regarding the regarding Prevention and management of complication of bronchial asthma in children. The enhancement could be statistically tested using a paired t test, which revealed statistical significance at a p-value of 0.001 for the improvement. It demonstrates that the Parental Pedagogy Program was successful in raising the level of knowledge and attitude among mothers of asthmatic children. The researcher faced certain obstacles from few mothers who were pretested and they were not available during the post test as they got discharged on the post test date. Such sample were rejected and new samples were taken.

Acknowledgement:

We acknowledge the professional support in approval, data analysis and manuscript by editorial committee.

Conflict of Interest:

We report no conflict of intent

References:

1. Prashanth PV. Effectiveness of structured teaching programme on knowledge regarding bronchial asthma and its management among mothers of asthmatic children. Int J Nurs Educ. 2011 Jan 1;3(1):74-.
2. Judy A. Wong's Essential of Pediatric Nursing: South Asia Edition. 1st ed. India: Elsevier Health Inc; 2015: 345.
3. Hassanzadeh J, Basiri F, MohammadBeigi A. Prevalence of asthma symptoms and allergic diseases with ISSAC method in children, Shiraz. Zahedan J Res Med Sci. 2009;13(8):35-9.

4. WHO. Fact sheet: Recent asthma report. Available at: <https://www.who.int/mediacentre/factsheets/fs206/en/>. Accessed on 8 May 2021
5. Cerdan NS, Alpert PT, Moonie S, Cyrkiel D, Rue S. Asthma severity in children and the quality of life of their parents. *Appl Nurs Res* 2012;25(3):131–7.
6. Brown N, Gallagher R, Fowler C, Wales S. The role of parents in managing asthma in middle childhood: an important consideration in chronic care. *Collegian* 2010;17(2):71–6
7. Becker A, Bérubé D, Chad Z, Dolovich M, Ducharme F, D'Urzo T, Ernst P, Ferguson A, Gillespie C, Kapur S, Kovesi T. Canadian pediatric asthma consensus guidelines, 2003 (updated to December 2004): introduction. *Cmaj*. 2005 Sep 13;173(6 suppl):S12-4.
8. Radic SD, Milenkovic BA, Gvozdenovic BS, Zivkovic ZM, Pesic IM, Babic DD. The correlation between parental education and their knowledge of asthma. *Allergologia et immunopathologia*. 2014 Nov 1;42(6):518-26.
9. Vaishnav P, Ameta G. Knowledge, attitude and practices among parents of asthmatic children in Rajasthan: A hospital based descriptive observational study.
10. Cecilia Vardhini, Maheswari Jayakumar, Vijayanthimala. Effectiveness of STP on knowledge and practice regarding prevention of bronchial asthma among mothers of underfive children. *Indian journal of applied research* 2017;7(8):29-32
11. Rekha K, Padmaja A. A study to assess the effectiveness of structured teaching programme on knowledge regarding bronchial asthma among mothers of under five children in selected hospitals, Tirupati. *IOSR-JNHS*. 2018;7(4):67-72.
12. Alibakhshikenari M. An investigation into the effect of multimedia training on the knowledge and self-efficacy of children with asthma. *MOJ Curr Res Rev*. 2018;1(5):232-6.
13. Clark NM, Gong M, Schork MA, Maiman LA, Evans D, Hurwitz ME, et al. A scale for assessing health care providers' teaching and communication behaviour regarding asthma. *Health Ed Behav*. 1997;24(2):245-56.
14. Zarei A, Jahanpour F, Alhani F, Razazan N, Ostovar A. The impact of multimedia education on knowledge and self-efficacy among parents of children with asthma: a randomized control trial. *J Caring Sci*. 2014;3(3):185-92. .
15. Krishna S, Francisco B, Balas A, König P, Graff GR, Madsen RW, et al. Internet enabled interactive multimedia asthma education program: a randomized control trial. *Pediatrics*. 2003;111(3):503-10.
16. Bhagavatheeswaran KS, Kasav JB, Singh AK, Mohan SK, Joshi A. Asthma-related knowledge, attitudes, practices (KAP) of parents of children with bronchial asthma: A hospital-based study. *Ann Trop Med Public Health*. 2016;9:23-30.
17. AlOtaibi E, AlAteeq M. Knowledge and practice of parents and guardians about childhood asthma at King Abdulaziz Medical City for National Guard, Riyadh, Saudi Arabia. *Risk Manag Healthc Policy*. 2018;11:67-75